


SWBAT

combine vectors

Sep 4-7:31 AM

SECA CP Physics
Thursday 17 December 2015

Welcome!!!



PEDs with Passing

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Room C-244

Centering
(quotes)

- Show me you are passing on SchoolView, or secure phone!
- Pg 49 - FP Intro to vector components

Opening Activity - Quick Write!

What are the tips to help make a list of known & unknown?

How do you know if it's free fall, only UAM, or projectile?

UNITS!

$m \Rightarrow \Delta x \text{ or } \Delta y$

$s \Rightarrow \Delta t$

UP $\Rightarrow +$
DOWN $\Rightarrow -$

$m/s \rightarrow v_i \text{ or } v_f$

$m/s^2 \rightarrow a$

$a \uparrow$

$a_x = 0$

UP & DOWN ONLY = FREE FALL
 SIDEWAYS ONLY = UAM (Δx)
 BOTH = PROJECTILE ($a_y = -9.81 m/s^2, a_x = 0$)

Keep your eyes on the stars, and your feet on the ground.
Theodore Roosevelt

Sep 7-7:04 AM

What we should have solid:

Memorize our 5 vocab cards, units, vector or not, definition, formula

Be able to answer distance vs displacement questions

Be able to make measurements of real-life motion. Know what is likely to make timing things difficult and how to get more reliable timing results

Be able to convert between miles and meters, between hours, minutes, and seconds

Be able to calculate speed = dist/time and velocity = disp/time

Know what all of the symbols in the UAM equations stand for and mean

→ Be able to turn a UAM word problem into a list of knowns and unknowns

Be able to pick the equation with those 4 things in it

Be able to put the knowns into that equation

(Be able to solve for the unknown)

→ PROJECTILES: v_x IS CONSTANT; $a_y = -9.8 \text{ m/s}^2$ ^{v_y CHANGES} PG 42

PG 43 TIME, Δt , CONNECTS x & y

QW every day to review? Volunteer answers on board?

Dec 4-9:15 AM

Unit	Chapters	Date
Left-Side Items	Page	Right-Side Items
REFLECTION ON NOTES	2	Ed Ed Adam Savage
HOW FAR FROM BRIDGE	4	"FORT STUEBEN"
REFLECTION ON NOTES	6	Hmwk: BASIC UNITS
PR: DISTANCE & DISPLACEMENT	8	Hmwk: FP DISPLACEMENT
DIAGRAM & STEPS	10	TIMING & ERROR
SUMMARY OF TIMING	12	How to BUILD a TABLE
PR: CONVERTING SOLNS	14	Hmwk: FP CONVERSIONS
PR: VELOCITY & SPEED	16	Hmwk: FP SPEED & VELOCITY
SPEED WORD PROBLEMS	18	ALGEBRA FOR PHYSICS
LAB JOURNAL 10/7	20	LAB JOURNAL 10/8
LAB JOURNAL 10/12	24	Hmwk: FP GRAPHS POSITION
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REVIEW FOR TEST	30	BALL ON RAMP
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PRACTICE UAM	34	FP: INTRO TO UAM
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MY FREE FALL WORD PROBLEM	38	3-ACT FALLING GLOWSTICK
Toy popper experiment	40	Free fall class solutions
Launched vs. Dropped	42	FP: INTRO TO PROJECTILE MOTION
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OUR VECTOR PRACTICE	48	FP - VECTOR COMPONENTS

Sep 5-9:09 AM

pg 48

Adding Vectors:

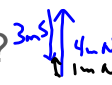
What do you think???

DISPLACEMENTS

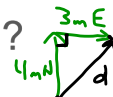
- 4 m north + 3 m north = ?



- 4 m north + 3 m south = ?



- 4 m north + 3 m east = ?



$$d = \sqrt{3^2 + 4^2}$$

$$a^2 + b^2 = c^2$$

$$= \sqrt{9 + 16} = \sqrt{25} = 5 \text{ m}$$

Hmwk: FP - Intro to vector components pg 49

FP - A problem to review SOH-CAH-TOA

$$a^2 + b^2 = c^2$$

$$d = \sqrt{(40 \text{ cm})^2 + (9 \text{ cm})^2}$$

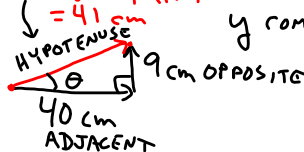
X COMPONENT = +40 cm

Y COMPONENT = +9 cm

$$\sin \theta = \frac{\text{OPP}}{\text{HYP}}$$

$$\cos \theta = \frac{\text{ADJ}}{\text{HYP}}$$

$$\tan \theta = \frac{\text{OPP}}{\text{ADJ}}$$



$$\tan \theta = \frac{O}{A} = \frac{9 \text{ cm}}{40 \text{ cm}}$$

$$\theta = \tan^{-1}\left(\frac{9 \text{ cm}}{40 \text{ cm}}\right) = 12.68^\circ$$

Dec 16-8:38 AM

Dec 17-8:10 AM